

U.S. Patent Application Serial No. **09/768,173**  
Amendment dated March 19, 2004  
Reply to OA of **November 19, 2003**

**REMARKS**

Claims 1, 4-6, and 8-14 are currently being examined, of which claims 1, 4-6, and 8-12 have been amended. Claims 2, 3, and 7 have been canceled without prejudice or disclaimer of their subject matter. No new claims have been added. It is respectfully believed that no new matter has been added.

Before turning to the cited art, a brief review of the present invention is in order. The present invention relates to chuck equipment comprising a plate-shaped base, a first electrode to which a first voltage is applied, and a second electrode to which a second voltage different from the first voltage in magnitude is applied. The first and second electrodes are arranged on a surface of the base. Also, the first and second electrodes have a substrate thereabove. The substrate is disposed in an electric field formed between the first and second electrodes when the first and second voltages are applied for holding the substrate onto said first and second electrodes. Surfaces of the first and second electrodes are exposed.

Additionally, in accordance with the principles of the present invention, the chuck equipment is constructed in such a manner that the substrate is placed on the surface of the chuck equipment on which the first and second electrodes are arranged to cause the substrate to be brought into contact with said first and second electrodes.

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The present invention has a structure in which the surfaces of the first and second electrodes are directly in contact with the surface of the substrate.

Claim 1, as amended, sets forth, *inter alia*, “the chuck equipment is constructed in such a manner that said substrate is placed on the surface of said chuck equipment on which said first and second electrodes are arranged to cause said substrate to be brought into contact with said first and second electrodes.”

Claim 1 stands rejected under 35 USC 102(e) as anticipated by USP 5,751,537 (**Kumar**).

Applicants respectfully traverse this rejection.

**Kumar** describes a chuck 20, electrodes 146 and 148, substrate 35, and insulator 30. It is impossible for electrodes 146, 148 to be directly in contact with substrate 35 because the electrodes 146, 148 are buried in the insulator 30 (FIGS. 2-3). The insulator 30 covers the electrodes 146, 148 (col. 6, lines 9-12). Therefore, the chuck described in **Kumar** is different from the present invention. Additionally, **Kumar** does not describe, teach, or suggest first and second electrodes being insulated from each other and arranged on a surface of a base, as set forth in claim 1.

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**Kumar** does not describe, teach, or suggest the features set forth in claim 1 of “the chuck equipment is constructed in such a manner that said substrate is placed on the surface of said chuck equipment on which said first and second electrodes are arranged to cause said substrate to be brought into contact with said first and second electrodes” in combination with the other claimed features.

Furthermore, it would not have been obvious to modify or transform **Kumar** to arrive at the advantageous invention set forth in claim 1, as amended, because of all of the extensive and substantial modifications that would be necessary for such a transformation.

Thus, Applicants respectfully submit that this rejection should be withdrawn.

Claims 2-4, 6, 7, and 12-14 stand rejected under 35 USC 103(a) as obvious over **Kumar** in view of USP 5,847,918 (**Shufflebotham**).

Applicants respectfully traverse this rejection.

**Shufflebotham** states that an electrode includes a bare upper metal face. The structure of the chuck in FIG. 2 relates to a mono-polar method which is different from a bi-polar method. **Shufflebotham** also discloses a chuck by bi-polar method in FIGS. 5-7. It might potentially be

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argued that it may be possible for a chuck described in FIGS. 5-7 to expose an electrode.

However, **Shufflebotham** indicates that there is a "vacuum gap between plate 36 and substrate 32" (column 7 line 54-55), and also indicates that "[m]etal Plate 36 is located in recess 46 such that peripheral edges of the plate abut interior walls 47 ... upper surface" (col. 6, lines 20-24).

Therefore, the substrate 32 is in contact with the upper end of walls 47, but not in contact with the electrode 36.

That is the reason that a subject to be clamped by the chuck of **Shufflebotham** includes conductive material such as metal or semiconductor (col. 1, line 32-34). It is also clear according to the indication of **Shufflebotham** that the formula for clamping pressure (col. 7, line 1) shows electrostatically clamping pressure per unit area for subject to be clamped by forming capacitor between the subject and the electrode.

In view of the foregoing, it is impossible for **Shufflebotham** to describe, teach, or suggest the present invention because the present invention has a structure with the substrate in direct contact with the electrode and clamping it with strong electric field.

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Additionally, **Kumar** and **Shufflebotham**, alone or in combination, do not describe, teach, or suggest first and second electrodes being insulated from each other and arranged on a surface of a base, as set forth in claim 1.

**Kumar** and **Shufflebotham**, alone or in combination, do not describe, teach, or suggest the features set forth in claim 1 of “the chuck equipment is constructed in such a manner that said substrate is placed on the surface of said chuck equipment on which said first and second electrodes are arranged to cause said substrate to be brought into contact with said first and second electrodes” in combination with the other claimed features.

Furthermore, it would not have been obvious to modify or transform **Kumar** in view of **Shufflebotham** to arrive at the advantageous invention set forth in claim 1, as amended, because of all of the extensive and substantial modifications that would be necessary for such a transformation.

Thus, Applicants respectfully submit that this rejection should be withdrawn.

Claim 5 stands rejected under 35 USC 103(a) as obvious over **Kumar** in view of **Shufflebotham** and USP 5,229,910 (**Kasahara**).

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Claims 8-10 and 13 stand rejected under 35 USC 103(a) as obvious over **Kumar** in view of **Shufflebotham** and International Publication No. WO 00/72376 (**Kitabayashi**).

Claim 11 stands rejected under 35 USC 103(a) as obvious over **Kumar** in view of **Shufflebotham** and USP 5,103,367 (**Horwitz**).

Applicants respectfully traverse the above rejections of claims 5, 8-11, and 13.

**Kasahara** describes a billboard device suitable for use in posting a sheet of advertisement. **Kitabayashi** describes an electrostatic chuck and treating device. **Horwitz** describes an electrostatic chuck using A.C. field excitation. **Kasahara, Kitabayashi, and Horwitz** do not provide any description of a substrate that is in contact with electrodes, as set forth in claim 1, as amended, in combination with the other claimed features.

**Kumar, Shufflebotham, Kasahara, Kitabayashi, and Horwitz**, alone or in combination, do not describe, teach, or suggest the features set forth in claim 1 of “the chuck equipment is constructed in such a manner that said substrate is placed on the surface of said chuck equipment on which said first and second electrodes are arranged to cause said substrate to be brought into contact with said first and second electrodes” in combination with the other claimed features.

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Thus, Applicants respectfully submit that the rejections of claims 5, 8-11, and 13 should be withdrawn.

In view of the aforementioned remarks and amendments, it is respectfully submitted that all pending claims are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number indicated below to arrange for a telephone conference to expedite the disposition of this case.

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In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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Enclosure: Petition for Extension of Time